Jingdong Zhang

E-mail: jdzhang@tamu.edu
Phone: +1 979-933-7159
Personal Website: https://evergreen0929.github.io/

EDUCATION

- **Texas A&M University**
  Ph.D. | Computer Science, Advisor: Wenping Wang, Xin Li
  Research Interest:
  - Computer Vision: Multi-task Learning, Scene Understanding, Semi-supervised Learning, Structured Representation Learning.
  - Computer Graphics: 3D Reconstruction and Generation, Neural Rendering.
- **School of Information Science and Engineering | Fudan University**
  Bachelor of Engineering | Intelligent Science and Technology Major (Excellent Class)

PUBLICATIONS

- ***SolidGS: Consolidating Gaussian Surfel Splatting for Sparse-View Surface Reconstruction***
  Zhuowen Shen, Yuan Liu, Zhang Chen, Zhong Li, Jiepeng Wang, Yongqing Liang, Zhengming Yu, **Jingdong Zhang**, Yi Xu, Scott Schaefer, Xin Li, Wenping Wang
  Arxiv 2024 [arxiv] [project]
- ***Learning Hierarchical Task Tokens for Effective Multi-Task Partially Annotated Dense Predictions***
  Jingdong Zhang*, Hanrong Ye, Xin Li, Wenping Wang, Dan Xu
  IJCV (International Journal of Computer Vision) **Under review** [arxiv]
- ***BridgeNet: Comprehensive and Effective Feature Interactions via Bridge Feature for Multi-task Dense Predictions***
  Jingdong Zhang, Jiayuan Fan*, Peng Ye, Bo Zhang, Hancheng Ye, Baopu Li, Yancheng Cai, Tao Chen
  TPAMI (IEEE Transactions on Pattern Analysis and Machine Intelligence) **Under minor revision** [arxiv]
- ***Rethinking Cross-Domain Pedestrian Detection: A Background-Focused Distribution Alignment Framework for Instance-Free One-Stage Detectors***
  Yancheng Cai, Bo Zhang, Baopu Li, Tao Chen*, Hongliang Yan, **Jingdong Zhang**, Jiahao Xu
  TIP (IEEE Transactions on Image Processing [paper] [code]

INTERNSHIPS

- **Tencent America | Research Intern** *Advisor: Weikan Chen, Bo Yang* May. 2024 ~ Aug. 2024

RESEARCH EXPERIENCES

- **Aggie Graphics Group | Texas A&M University | Ph.D Student**
  Neural Parametrization and Rendering *Advisor: Prof. Wenping Wang and Prof. Xin Li* Jul. 2023 ~ Recent
  - Propose to learn parameterized 3D surfaces and volumes with geometric shapes and abundant properties (including color, density, bump, etc) with neural models.
  - Participate in the project about differentiable neural rasterization for better shape representations.

  3D Shape Generation
  Advisor: Weikan Chen[1], Bo Yang[1], Wenping Wang[2] and Xin Li[2] Tencent America[1], TAMU[2] May. 2024 ~ Recent
  - Propose to utilize diffusion priors efficiently by exploiting projected 2D consistent Omni-maps for 3D mesh generation, which obtains relatively low training cost and flexible resolutions. This is an ongoing project.
- **Scene Parsing and Multi-task Learning | Hong Kong University of Science and Technology | Research Assistant**
  Multi-task Learning with Partially Annotated Data
  Advisor: Prof. Dan Xu[1], Prof. Wenping Wang[2] and Prof. Xin Li[2] HKUST[1], TAMU[2] Feb. 2022 ~ Nov. 2023

- Design a method for Multi-Task Learning with partially annotated data in scene parsing, which learns hierarchical task tokens with cross-task interactions and pseudo supervision signal discovery. Paper prepared to submit to IJCV (*Learning Hierarchical Task Tokens for Effective Multi-Task Partially Annotated Dense Predictions*).

➢ **Embedded Deep Learning and Visual Analysis Lab | Fudan University | Research Assistant**

Multi-task Learning for Dense Prediction Tasks *Advisor: Prof. Tao Chen, FDU* Jul. 2021 ~ Aug. 2023

- **Multi-Task Learning for Dense Predictions:** Propose a Multi-task Learning framework for dense prediction tasks with the bridge features involved to serve as comprehensive intermediate multi-task representations. Submitted to TPAMI (*Rethinking of Feature Interaction for Multi-task Learning on Dense Prediction*).
- **Cross-domain Pedestrian Detection:** Propose a Pedestrian Detection framework focused on solving the misalignment issues of background features to achieve Domain Adaptation. Accepted by TIP (*Rethinking Cross-domain Pedestrian Detection: A Background-focused Distribution Alignment Framework for Instance-Free One-Stage Detectors*).

AWARDS

- Outstanding Student of Fudan University in 2019-2020 Academic year. 2020
- The first prize of Advanced Driving Assistance System (ADAS) National Competition by Dell Corporation. 2021
- The second prize of outstanding Undergraduate Student Scholarship of FDU in 2019-2020 Academic year. 2020
- The third prize of outstanding Undergraduate Student Scholarship of FDU in 2021-2022 Academic year. 2022

PROJECTS

➢ **Advanced Driving Assistance System (ADAS) National Competition** May. 2021

https://drive.google.com/file/d/1hcRb_ya9f1QUQbqvQkiTBJ3Y9_Bq-S-k/view?usp=sharing

- As the Team Leader of our group, I propose a framework combining real-time detection and segmentation in the perception stage, and planning following with controlling accordingly to accomplish the task. We won the first prize of the competition.

ACADEMIC SERVICES

- Reviewer for CVPR. 2022~2024
- Reviewer for ICRA. 2024
- Reviewer for ECCV. 2022
- Reviewer for Pacific Graphics. 2024

SKILLS:

- Programming Languages: C, Python, Matlab.
- Deep Learning Frameworks: PyTorch.